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10/738,471	12/17/2003	Claude Q.C. Hayes	97661.00020	8199

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EXAMINER

BRUENJES, CHRISTOPHER P

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/738,471

Applicant(s)

HAYES, CLAUDE Q.C.

Examiner

Christopher P Bruenjes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20040929.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1-4, 7, 9, 14-27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-40 of U.S. Patent No. 6,558,568.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of '658 teach a method of using an article comprising a hydroxide in an amount sufficient to effect a level of heat absorption, support means for supporting said hydroxide, in relation to a heat sensitive device, wherein said hydroxide effects said level of heat absorption at least in part based on an irreversible

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decomposition of said hydroxide. The claims also teach that the hydroxide is positioned between the device and a heat generator either directly or indirectly contacting the device. Therefore, it would be obvious that the hydroxide fully covers the heat sensitive device. The hydroxide is chosen from the group consisting of lithium hydroxide, sodium hydroxide, potassium hydroxide, magnesium hydroxide, calcium hydroxide, beryllium hydroxide, aluminum hydroxide, and ammonium hydroxide. The claims of '658 fail to explicitly teach an article comprising all of these limitations. However, based on the limitations of the method claimed it would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made that the method claimed inherently teaches the instantly claimed article because the method requires an article possessing all of the limitations of the instantly claimed article in order to perform the method.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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2. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said heat sensitive device" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 4 and 7, the limitations "wherein the hydroxide is surrounded by a heat sensitive device" and the limitation "wherein said heat sensitive device is located within and spaced from said hydroxide" are conflicting limitations. How can the heat sensitive device surround and be located within the hydroxide at the same time? Based on the specification, the limitation of claim 4 appears to be worded incorrectly and should be stating that the hydroxide surrounds the heat sensitive device rather than the reverse, because the specification teaches all embodiments in which the hydroxide is on the outer surface of the device in order to protect the device from a heat generator.

Regarding claim 8, the limitation "being adaptable to the size and shape" renders the claim vague and indefinite because it is not understood if the flexible substrate can somehow change shape and size, or if the limitation is merely stating

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that the flexible substrate is the same size and shape required for the particular heat sensitive device. The limitation appears to be a

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-13, 20, and 22-27 are rejected under 35

U.S.C. 102(b) as being anticipated by Pedersen et al (USPN 4,543,281).

Regarding claims 1-2, 22, 24, and 26, Pedersen et al anticipate an article of manufacture for heat absorption comprising a hydroxide in an amount sufficient to affect a level of heat absorption and a support means such as a retaining matrix for supporting said hydroxide (see abstract and col.3, 1.1-11). The hydroxide is supportable in relation to said heat sensitive device by said support means (col.3, 1.40-57). The hydroxide affects the level of heat absorption at least in part based on an irreversible decomposition of said hydroxide (col.3,

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1.1-11). Regarding claims 3-4 and 8, the hydroxide in the matrix is coated or covers the heat sensitive device that is either rigid or flexible (col.3, 1.40-52). Therefore the heat sensitive device is embedded or surrounded by said hydroxide, and in the embodiment in which the heat sensitive device is flexible the hydroxide is adhered to a flexible substrate that is adaptable to the size and shape of a heat sensitive device. Regarding claims 5-7, Pedersen et al also teach that the hydroxide is sealed between an inner and outer surface of a storage unit (col.3, 1.52-57). Therefore, in that embodiment the hydroxides is located and supported by a closed container by lining the inner wall of the container's outer wall and the device is located within and spaced from said hydroxide by the inner wall of the container. Regarding claim 9, 20, 23, and 27, the hydroxide is aluminum hydroxide (see abstract). Regarding claim 10, in the embodiment in which the hydroxide is used as shell for electric cables, the heat sensitive device is the electrical wire, which is covered by an insulation covering. Therefore the insulation of the cable is placed between the heat sensitive device and the support means containing hydroxide. Regarding claim 11, the outer layer or layers of the storage tank or vessel acts as at least one layer of insulation between said support means and a source of heat in the embodiment in

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which the hydroxide is placed between the inner and outer layers of the tank or vessel. Regarding claims 12 and 13, the inner and outer layers of the storage tank or vessel surround the hydroxide and support means forming a hermetic seal, that inherently has a vent because the granular material must have had some opening to dump the granular material in between the inner and outer layers. Regarding claim 25, the heat sensitive device is selected from the group consisting of a metal structure, a plastic structure, and an electronic device (col.3, 1.40-57).

4. Claims 1-2, 4-6, 9, 17-18, and 22-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Chase et al (USPN 3,973,397).

Regarding claims 1-2, 22, 24, and 26, Chase et al anticipate an article of manufacture for heat absorption (the liner of Figure 1) comprising hydroxide in an amount sufficient to affect a level of heat absorption (col.1, 1.67 - col.2, 1.15). The article further comprises a support means in the form of a retaining matrix for supporting said hydroxide, said hydroxide being supportable in relation to a heat sensitive device (the casing of Figure 1). The hydroxide affects the level of heat absorption at least in part based on an

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irreversible decomposition of said hydroxide (col.2, 1.41-45).

Regarding claim 4, the hydroxide is surrounded by a heat sensitive device (see Figure 1). Regarding claims 5-6, the hydroxide is supported in a closed container in which the hydroxide lines the inner wall of the closed container (see Figure 1). Regarding claims 9, 17-18, 23, and 27, the hydroxide is magnesium hydroxide or calcium hydroxide (col.2, 1.11-13). Regarding claim 25, the heat sensitive device is a metal or plastic structure and/or a firewall represented by the motor casing.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 9, 17-19, 23, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pedersen et al (USPN 4,543,281) in view of Lamon et al (USPN 5,453,453).

Pedersen et al teach all that is claimed in claims 1, 22, and 24 as shown above, but fail to teach using magnesium, calcium, or beryllium hydroxide as the hydroxide. However, Lamon et al teach that when forming fire or flame barrier material for protecting metal, plastic and composite parts, such as the material of Pedersen et al, alkaline earth metal hydroxides and aluminum group hydroxides are interchangeable (col.2, 1.20-25). One of ordinary skill in the art would have recognized that Pedersen et al and Lamon et al are analogous insofar as both references are concerned with forming fire barrier material for the protection of metal, plastic, and composite parts.

Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to substitute any alkaline earth metal hydroxide, such as magnesium, calcium, or beryllium hydroxides, for the aluminum

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hydroxide of Pedersen depending on the desired end result of the article, since each hydroxide will have a different temperature at which it decomposes.

6. Claims 9, 14-16, 23, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pedersen et al (USPN 4,543,281) in view of Lamon et al (USPN 5,453,453), and further in view of Claar et al (USPN 4,421,661).

Pedersen et al teach all that is claimed in claims 1, 22, and 24 as shown above, but fail to explicitly teach using Lithium, Sodium or Potassium hydroxide as the hydroxide of the fire barrier material. However, Lamon et al teach that other hydroxides such as alkaline earth metal hydroxides are interchangeable with aluminum hydroxide, all of the metallic hydroxides absorb large quantities of heat, and that the particular hydroxide is chosen depending on the specific temperature desired. Claar et al goes on to teach that not only alkaline earth metal hydroxides, but also alkaline metal hydroxides, such as lithium, sodium, and potassium hydroxides, also absorb large quantities of heat and are chosen depending on the specific temperature desired (see abstract). One of ordinary skill in the art would have recognized that all three references are analogous insofar as they are all concerned with

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the endothermic heat properties and heat absorption of metal hydroxides.

Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to substitute Lithium, Sodium, or Potassium hydroxides for the aluminum hydroxide of Pedersen et al depending on the intended end use of the article since it has been shown by Lamon et al and Claar et al that alkali metal, alkaline earth metal, and aluminum hydroxides are all interchangeable as heat absorbers depending on the desired temperature level of the endothermic property.

7. Claims 9, 21, 23, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pedersen et al (USPN 4,543,281) in view of Lamon et al (USPN 5,453,453), and further in view of Lem et al (USPN 5,167,876).

Pedersen et al teach all that is claimed in claims 1, 22, and 24 as shown above, but fail to explicitly teach using ammonium hydroxide as the hydroxide of the fire barrier material. However, Lamon et al teach that other hydroxides such as alkaline earth metal hydroxides are interchangeable with aluminum hydroxide, all of the metallic hydroxides absorb large quantities of heat, and that the particular hydroxide is chosen

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depending on the specific temperature desired. Lem et al goes on to teach that not only alkaline earth metal hydroxides, such as magnesium hydroxide and calcium hydroxide taught in Lamon et al, but also ammonium hydroxide absorb large quantities of heat and are chosen depending on the specific temperature desired (col.20, 1.46 - col.21, 1.37). One of ordinary skill in the art would have recognized that all three references are analogous insofar as they are all concerned with the endothermic heat properties and heat absorption of hydroxides for use as fire barrier materials.

Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to substitute ammonium hydroxide for the aluminum hydroxide of Pedersen et al depending on the intended end use of the article since it has been shown by Lamon et al and Lem et al that ammonium hydroxide, alkaline earth metal, and aluminum hydroxides are all interchangeable as heat absorbers depending on the desired temperature level of the endothermic property.

8. Claims 9, 19-20, 23, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chase et al (USPN 3,973,397) in view of Lamon et al (USPN 5,453,453).

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Chase et al teach all that is claimed in claims 1, 22, and 24 as shown above, and teach using calcium hydroxide and any other metal compounds with high decomposition endotherms (col.5, 1.47-52). Chase et al further teaches that one example of a metal compound that can be used is magnesium hydroxide. Chase et al fail to explicitly teach using beryllium hydroxide or aluminum hydroxide. However, Lamon et al teach that when forming insulating material for protecting metal, plastic and composite parts (col.1, 1.7-12), such as the casing of Chase et al, alkaline earth metal hydroxides and aluminum group hydroxides are interchangeable (col.2, 1.20-25). One of ordinary skill in the art would have recognized that Chase et al and Lamon et al are analogous insofar as both references are concerned with forming insulating material for the protection of metal, plastic, and composite parts.

Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to use beryllium hydroxide or aluminum hydroxide, which are taught in Lamon et al as metal compounds with high decomposition endotherms used as insulating materials, for the ablative filler of Chase et al depending on the desired end result of the article, since Chase et al teaches that any metal compound having similar properties can be substituted depending on the

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desired end result and that Lamon et al teach that beryllium hydroxide and aluminum hydroxide have those similar properties, because they are used in the same manner as the hydroxides taught by Chase et al.

9. Claims 9, 14-16, 23, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chase et al (USPN 3,973,397) in view of Claar et al (USPN 4,421,661).

Chase et al teach all that is claimed in claims 1, 22, and 24 as shown above, and teach using calcium hydroxide and any other metal compounds with high decomposition endotherms (col.5, 1.47-52). Chase et al further teaches that one example of a metal compound that can be used is magnesium hydroxide. Chase et al fail to explicitly teach using lithium, sodium, or potassium hydroxides. However, Claar et al teach that alkali and alkaline earth metal hydroxides are interchangeable as high temperature thermal energy absorbers (see abstract). One of ordinary skill in the art would have recognized that Chase et al and Lamon et al are analogous insofar as both references are concerned with forming heat absorbing material from metal hydroxides.

Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was

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made to use lithium, sodium, or potassium hydroxide, which are taught in Claar et al as metal compounds with high decomposition endotherms, for the ablative filler of Chase et al depending on the desired end result of the article, since Chase et al teaches that any metal compound having similar properties can be substituted depending on the desired end result and that Claar et al teach that lithium, sodium, and potassium hydroxides have those similar properties, because they are taught by Claar et al to be interchangeable as heat absorbers with the calcium and magnesium hydroxides specifically taught by Chase et al.

10. Claims 9, 21, 23, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chase et al (USPN 3,973,397) in view of Lem et al (USPN 5,167,876).

Chase et al teach all that is claimed in claims 1, 22, and 24 as shown above, and teach using calcium hydroxide and any other metal compounds with high decomposition endotherms (col.5, 1.47-52). Chase et al further teaches that one example of a metal compound that can be used is magnesium hydroxide. Chase et al fail to explicitly teach using ammonium hydroxide. However, Lem et al teach that magnesium, calcium, and ammonium hydroxides are interchangeable as high temperature thermal energy absorbers depending on the desired end result of the

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absorber (col.20, 1.46 - col.21, 1.37). One of ordinary skill in the art would have recognized that Chase et al and Lem et al are analogous insofar as both references are concerned with forming heat absorbing material from metal hydroxides.

Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to use ammonium hydroxide, which is taught in Lem et al as a metal compound with high decomposition endotherms equivalent to magnesium and calcium hydroxides, for the ablative filler of Chase et al depending on the desired end result of the article, since Chase et al teaches that any metal compound having similar properties can be substituted depending on the desired end result and that Lem et al teach that ammonium hydroxide has those similar properties, because it is taught by Lem et al to be interchangeable as a heat absorber with the calcium and magnesium hydroxides specifically taught by Chase et al.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bellamore et al (USPN 1,688,849); McLaughlin et al (USPN 5,948,323); Morimoto et al (USPN 4,496,469); Kitahara et al (USPN 5,429,762); Hirashi

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(USPN 5,695,824); Wierer et al (USPN 5,614,256); Yamamoto (USPN 6,277,908).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P Bruenjes whose telephone number is 571-272-1489. The examiner can normally be reached on Monday thru Friday from 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher P Bruenjes
Examiner
Art Unit 1772
CPB
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July 20, 2005


HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

7/21/05